62. (ONCE AMENDED) The method of claim 57, wherein the compensating the write pulse with respect to the detected tilt comprises adjusting a power and/or a write time required for recording the write pulse.

REMARKS

INTRODUCTION:

In accordance with the foregoing, claim 10 has been cancelled without prejudice or disclaimer and claims 9, 11, 13, 16, 17, 51, 53, 56, and 62 have been amended. The amendment to the claims is supported by embodiments at, for example, page 17, lines 17-25 of the Applicants' application.

No new matter is being presented, and approval and entry are respectfully requested. In particular, the forgoing amendments require only a cursory review by the Examiner and are made, for example, to remove issues for appeal.

Claims 9-17, 29-40, and 49-63 are pending and under consideration. Reconsideration is respectfully requested.

By way of review and to avoid repetition, Applicants respectfully incorporate remarks submitted to the Examiner on January 23, 2003. However, the following remarks are additionally submitted to earnestly distinguish the present invention from the cited references.

REJECTION UNDER 35 U.S.C. §103:

A. Rejection of claims 9

In the Office Action at pages 2-4, the Examiner rejects claim 9 under 35 U.S.C. §103 in view of Eastman et al. (U.S. Patent No. 5,446,716) and Kume et al. (U.S. Patent No. 6,072,762). The rejection is respectfully traversed and reconsideration is requested.

Eastman et al. appears to disclose a recording system which controls a write power to provide a partial correction of a first type of variation such as a laser defocus. (Col. 4, lines 15-36 & lines 64-67, col. 5, lines 41-65; col. 8, lines 49-66, col. 9, lines 6-14; FIGs. 1 and 3(a) through 3(c)). However, while Eastman et al. discloses that the system is effective for an optical source having longer wavelengths for use with CDs, Eastman et al. does not suggest that such a system is effective for systems using shorter wavelengths, for example, HD-DVDs using a wavelength of about 430nm or less.

To cure this deficiency, the Examiner relies upon Kume et al. which appears to disclose an optical recording medium with use of wavelengths of 430 nm or less. The Examiner states that one of ordinary skill in the art would have been motivated to combine Eastman et al. and Kume et al. so as to achieve a higher recording density, as disclosed in col. 7, lines 41-52 of Kume et al. **However**, Applicants respectfully note that in the context of correcting defocus by adjusting laser power in a short wavelength system, Kume et al. appears to teach away from a combination with Eastman et al. and away from an aspect of the present invention.

That is, Kume et al. teaches that conventional devices using a laser diode having a short wavelength experience defocus due to an increase in temperature arising from a change from a reproducing operation to a recording operation. (Col. 2, lines 41-67; FIG. 3). In other words, Kume et al. appears to disclose that changes in power cause the defocus in the short wavelength system. To solve this problem, Kume et al. discloses maintaining the power level of the laser diode to be **constant** in both recording and reproducing operations, but attenuating the output laser beam where reproducing is being performed. (Col. 4, lines 1-9 of Kume et al.). This attenuation is performed using a liquid crystal optical shutter 14, which has a high transmittance when recording is performed, and a lower transmittance when reproducing is performed. (Col. 6, lines 16-45; FIGS. 1 and 2 of Kume et al.).

In summary, Kume et al. discloses that, in the context of shorter wavelength light beams, conventional techniques still result in defocus and that the defocus is caused by changes in power of the laser diode. In order to prevent defocus, Kume et al. teaches away from changing the power at the laser diode, and instead teaches using a shutter to control the intensity of the generated light beam. **In contrast**, according to an aspect of the present invention, claim 9 recites, in part, "compensating a recording signal with respect to the detected defocus, including adjusting a power level required for recording the recording signal" with respect to a short wavelength system. Applicants respectfully note that an aspect of the present invention utilizes a method expressly avoided and discouraged by Kume et al. with respect to a short wavelength system.

Applicants further note that the Examiner may not pick and chose among individual parts of assorted prior art references, but must read the references as a whole, and that a consideration must be given to where the references diverge and teach away from the claimed invention. Furthermore, the fact that the prior art teaches away from an invention is evidence

that the invention is not obvious. (See Akzo v USITC,808 F.2d 1471,1 U.S.P.Q.2d 1241(Fed.Cir.1986)).

Finally, Applicants note that under MPEP §§2142 – 2143, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must **both** be found in the prior art, and not based on Applicants' disclosure. (See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Applicants submit that a suggestion to make combination and a reasonable expectation of success are not present in light of the fact that Kume et al. teaches that changes in output power of a laser diode causes defocus, when using wavelengths of 430 nm or less, while Eastman et al. specifically teaches adjusting the output power of a laser diode to account for defocus. In other words, a reasonable expectation of success is not found because Kume et al. teaches away from making a combination with teachings of Eastman et al.

The Examiner appears to combine Eastman et al. for adjusting the output power of a laser diode to account for defocus, and Kume et al. **only** for a short wavelength system, without considering the teaching of Kume et al. as a whole (that changes in output power of a laser diode causes the defocus when using wavelengths of 430 nm or less). The Federal Circuit has repeatedly held this piece meal approach/analysis to be inappropriate. (See Akzo v USITC, 808 F.2d 1471,1 U.S.P.Q.2d 1241(Fed.Cir.1986)). Accordingly, withdrawal of the rejection of claim 9 is earnestly solicited.

B. Rejection of claims 11-13, 51-53, 57, and 62

On pages 4-5 of the Office Action, the Examiner rejects claims 11-13, 51-53, 57, and 62 under 35 U.S.C. §103 in view of Eastman et al. and Matsubayahi et al. (U.S. Patent No. 4,631,712). The rejection is traversed and reconsideration is respectfully requested.

Eastman et al. appears to disclose a recording system which controls a write power to provide a partial correction of a first type of variation, such as a laser defocus, for an optical source having longer wavelengths for use with CDs. On the other hand, Matsubayahi et al. appears to disclose correcting an emission time of a light bream to account for an increase/decrease of a pit length due to an inclination of CDs. (Col. 3, lines 7-24).

However, a combination of Eastman et al. and Matsubayahi et al. still does not disclose or suggest a method of compensating for a tilt and a defocus, including "compensating the write pulse with respect to the detected tilt so as to shift the recording pattern...," (emphasis added) as recited in independent claim 11 and similarly recited in independent claim 51 of Applicants' application. While Matsubayahi et al. appears to disclose correcting either an emission time **or**

intensity of a light beam to increase/decrease a pit length to account for an inclination of a CD, it does not disclose or suggest compensating a write pulse so as to shift a recording pattern to account for a tilt and defocus, particularly in, for example, an HD-DVD using a short wavelength system.

Furthermore, Matsubayahi et al., individually or as combined with Eastman et al., does not disclose or suggest "compensating the write pulse with respect to the detected tilt so as to adjust a length **and** a width of a recording mark...," (emphasis added) as recited in independent claim 57, or "adjusting a power **and** a write time required for recording with respect to the detected tilt...," (emphasis added) as recited in claim 13 of Applicants' application.

That is, Eastman et al. appears to disclose controlling a write power to account for defocus, and Matsubayahi et al. appears to disclose controlling an emission time or intensity of a light beam to correct a pit length, to account for an inclination. However, a combination of these teachings still does not disclose or suggest one or more limitations recited in the instant claims at issue, for example, compensating a write pulse with respect to a detected tilt so as to shift a recording pattern, adjusting a length and a width of a recording mark to account for a tilt, or adjusting a power and a write time required for writing to account for the tilt.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure, to sustain the §103 rejection. (MPEP §§2142 – 2143). Even assuming that a motivation to make modifications in the manner proposed by the Examiner exists, teachings of the references themselves do not provide a reasonable expectation of success to make such necessary modification to arrive at the present invention. Applicants note that to even consider such a modification, for example, to modify Eastman et al. with additional ability of Matsubayahi et al. to control an intensity of a light beam to correct a pit length, (which itself is required to be modified to shift the entire recording pattern, or adjust adjusting a length and a width of a recording mark), complete new engineering decisions are required, which certainly are not supported by the disclosures of Eastman et al. and Matsubayahi et al.

The Board has repeatedly held that a finding of obviousness requires that the prior art provide a motivation for one skilled in the art to make the necessary changes to the reference device. In other words, Applicants' disclosure may not be used as a basis for the motivation to combine or modify the prior art to arrive at the claimed invention. (See, e.g., In re Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (Bd. Pat. App. 1984) and MPEP §§ 2141-2142.) These

findings were upheld even where the references relied upon teach that all aspects of the claimed invention were individually known in the art. (See, e.g., Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993)). As the Examiner is aware, it is also inappropriate to rely on general principles of engineering or physics or common understanding to fill in the gaps in the teachings of a reference (see Panduit v. Dennison,774 F.2d 1082, 227 U.S.P.Q. 337 (Fed.Cir.1985) and Akzo v. Dupont, 810 F.2d 1148,1 U.S.P.Q.2d 1704 (Fed.Cir.1987)).

Accordingly, it is respectfully submitted that claims 11-13, 51-53, 57, and 62 remain patentable.

C. Rejection of claims 29-35, 37, 38, 49, 50, and 60

On pages 5-9, the Examiner rejects claims 29-35, 37, 38, 49, 50, and 60 under 35 U.S.C. §103 in view of Eastman et al. and Shoji et al. (U.S. Patent No. 6,175,541). The rejection is traversed and reconsideration is respectfully requested.

On page 6 of the Office Action, the Examiner acknowledges that Eastman et al. does not teach adjusting the write time to compensate the width of the mark and adjusting the end of a first pulse or a start of a last pulse. In order to cure this defect, the Examiner relies upon Shoji et al. as disclosing adjusting a length and a width of a recording mark according to the detected tilt and/or defocus.

As a point of clarification, Shoji et al. appears to disclose adjusting mark start and end parts in order to optimize the mark start and end parts and avoid the problems associated with thermal interference between adjacent marks. (Col. 2, col. 15, lines 12-38; FIGs. 4(a) through 9 of Shoji et al.) **However**, Shoji et al. does not otherwise suggest that this optimization is related to resolving defocus and tilt problems. Indeed, the words "defocus" and "tilt" do not appear in the specification of Shoji et al. Therefore, it is respectfully submitted that Shoji et al. does not disclose or suggest that the optimization of the mark start and end parts is related to compensating for defocus and tilt.

That is, Shoji et al. itself only teaches that the adjusted pulses are useful to control consistent lengths of marks and spaces therebetween so as to prevent enlargement of marks due to a heat accumulation during a recording. (See col. 1, lines 60-66, col. 2, lines 55-64, and col. 3, lines 7-12). However, Shoji et al. does not suggest that the adjusted pulses are useful in resolving problems associated with defocus and tilt. Accordingly, Shoji et al. does not supplement the missing elements of Eastman et al. For example, a combination of

Eastman et al. and Shoji et al. still does not disclose or suggest an apparatus having a recording compensator which "compensates a recording pulse with respect to the detected tilt **and** defocus using...to adjust a length **and** a width of a recording mark," (emphasis added) as recited in independent claim 29 and similarly recited in independent claim 49 of Applicants' application.

Even assuming that a motivation to make modifications in the manner proposed by the Examiner exists, teachings of the references themselves do not provide a reasonable expectation of success to make such necessary modification to arrive at the present invention. Applicants note that to even consider such a modification, for example, to modify pulses (which controls lengths of marks and spaces therebetween to account for deformation of marks caused by a heat accumulation) of Shoji et al. to adjust a length and a width of a recording mark to account for a tilt and/or defocus, **and** to apply a modified system of Shoji et al. to Eastman et al., complete new engineering decisions are required, which certainly are not supported by the disclosures of Eastman et al. and Shoji et al.

Therefore, it is respectfully submitted that the combination of Eastman et al. and Shoji et al. does not disclose or suggest the invention recited in claims 29-35, 37, 38, 49, 50, and 60.

D. Rejection of claims 14-17, 39, 40, and 54-56

On pages 9-11 of the Office Action, the Examiner rejects claims 14-17, 39, 40, and 54-56 under 35 U.S.C. §103 in view of Eastman et al., Matsubayahi et al., and Shoji et al. This rejection is traversed and reconsideration is requested.

Eastman et al. appears to disclose controlling a write power to account for defocus, Matsubayahi et al. appears to disclose controlling an emission time or intensity of a light beam to correct a pit length, to account for an inclination, and Shoji et al. appears to disclose adjusting pulses to control lengths of marks and spaces formed therebetween so as to prevent enlargement of marks due to a heat accumulation. However, a combination of these teachings still does not disclose or suggest "adjusting a write power to compensate a length of the recording mark, and...adjusting the write time to compensate a width of the recording mark," (emphasis added) as recited in claims 14 and similarly recited in the remaining claims at issue, to account for a tilt and/or defocus.

Contrary to the Examiner's assertions, col. 2, line 66 to col. 3, line 4 and col. 4, lines 3-20 of Shoji et al. **do not** disclose, for example, adjusting a write time to compensate a width of the

recording mark so as to account for a tilt and/or defocus. Rather, Shoji et al. expressly discloses that "heat accumulation in the recording film produces marks that are wider in the later half of the mark...something like a teardrop shape." To solve this, "the width of the middle part of a long mark is [made] substantially constant and does not spread because laser output is driven with constant period pulse current producing minimum power...," or adjusting a number of pulses to control lengths of marks and spaces formed therebetween. (Emphasis added, see col. 1, lines 60-66, column 2, lines 25-28, and col. 3, lines 7-40).

Applicants respectfully further note that modifying pulses used by Shoji et al. to control lengths of marks to overcome deformation of the marks associated with a heat accumulation, to arrive at an aspect of the present invention to control a length and a width of a mark to overcome a tilt and/or defocus, requires complete new engineering decisions. Accordingly, even assuming that a motivation to make modifications in the manner proposed by the Examiner exists, teachings of the references themselves do not provide a reasonable expectation of success to make such necessary modification to arrive at the present invention. Therefore, it is respectfully submitted that claims 14-17, 39, 40, and 54-56 remain patentable.

E. Rejection of claims 36, 58, 59, 61, and 63

On pages 11-13 of the Office Action, the Examiner rejects claims 36 and 61 under 35 U.S.C. §103 in view of Eastman et al., Shoji et al. and Kume et al., claims 58 and 63 under 35 U.S.C. §103 in view of Eastman et al., Matsubayahi et al. and Kume et al., and claim 59 under 35 U.S.C. §103 in view of Eastman et al., Matsubayahi et al., Shoji et al. and Kume et al. These rejections are traversed and reconsideration is requested.

That is, claims 36, 58, 59, 61, and 63 are allowable at least due to their dependency on independent claims 29, 11, 17, 49, and 57, respectively, as well as for the additional features recited therein, and withdrawal of the §103(a) rejections for these claims is also respectfully requested.

As noted above in relation to the rejection of claim 9, it is unclear why one of ordinary skill in the art would, for a system using wavelengths below 430 nm, use a system which relies upon changes in a power of an optical source as disclosed in Eastman et al., when Kume et al. specifically notes that it is these changes in power which cause defocus in short wavelength systems, and therefore suggests maintaining the power level of the laser diode so as to be equal in both recording and reproducing operations. (Col. 4, lines 1-9 of Kume et al.). Therefore, it is respectfully submitted that a motivation to utilize the system of Eastman et al.

and/or Shoji et al. with the laser diode of Kume et al., does not exists to support a prima facie argument for an obviousness rejection.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

If there are any additional fees associated with the filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 4/30/03

By: _____
Charles Y. Park
Registration No. 50,709

700 Eleventh Street, NW, Suite 500
Washington, D.C. 20001
(202) 434-1500

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please **CANCEL** claim 10 without prejudice or disclaimer, and **AMEND** claims 9, 11, 13, 16, 17, 51, 53, 56, and 62, as follows. The remaining claims are reprinted, as a convenience to the Examiner, as they presently stand before the U.S. Patent and Trademark Office.

9. (TWICE AMENDED) A method for compensating for defocus of an optical recording medium, the method comprising:

detecting the defocus of the optical recording medium using a light beam having a wavelength of roughly 430 nm or less; and

compensating a recording signal with respect to the detected defocus, including adjusting a power level required for recording the recording signal[using a predetermined scheme].

10. (CANCELLED)

11. (TWICE AMENDED) A method of compensating for a tilt and a defocus of an optical recording medium, the method comprising:

detecting the defocus of the optical recording medium;

compensating a write pulse with respect to the detected defocus using a predetermined scheme, wherein the write pulse comprises a predetermined recording pattern;

detecting the tilt of the optical recording medium; and

compensating [a write time of] the write pulse with respect to the detected tilt so as to shift the recording pattern with respect to the detected tilt.

12. (NOT AMENDED) The method of claim 11, wherein the predetermined scheme comprises adjusting a power level with respect to the detected defocus.

13. (TWICE AMENDED) The method of claim 11, wherein the compensating of the write pulse with respect to the detected tilt [further] comprises:

shifting the recording pattern with respect to the detected tilt by both an amount that the recording pattern was shifted due to the detected tilt, and in a direction opposite to the direction that the recording pattern was shifted due to the detected tilt; and

adjusting a power and [the]a write time required for recording with respect to the detected tilt in order to compensate for a size of a recording mark corresponding to [the]a recording signal.

14. (AS ONCE AMENDED) The method of claim 13, wherein

the adjusting the power comprises adjusting a write power to compensate a length of the recording mark, and

the adjusting the write time comprises adjusting the write time to compensate a width of the recording mark.

15. (NOT AMENDED) The method of claim 14, wherein adjusting the recording mark width comprises adjusting an ending time of a first pulse and/or a starting time of a last pulse of the recording pattern.

16. (ONCE AMENDED) The method of claim [13]11, wherein the [adjusting the power]compensating of the write pulse with respect to the detected tilt comprises:

adjusting a write power to compensate a length of [the]a recording mark corresponding to a recording signal, and

adjusting a write power of a multi-pulse chain of the recording pattern to adjust a width of the recording mark.

17. (TWICE AMENDED) A method for compensating input data for a tilt and/or a defocus of an optical recording medium, which records marks and spaces by write pulses having a predetermined recording pattern, the method comprising:

detecting the tilt and the defocus of the optical recording medium; and

adaptively compensating the recording pattern with respect to the detected tilt and/or defocus using a memory, wherein the memory stores data comprising

a write power to compensate with respect to the detected defocus,

a power and a time required for recording to compensate for an amount of shift of the recording pattern, and

a power and a time required for recording to compensate for a length and a width of a recording mark with respect to [a]the detected tilt and/or a length of [a]the recording mark.

29. (AS ONCE AMENDED) An apparatus which records and/or reproduces information on an optical recording medium, and which compensates for tilt and/or defocus, the apparatus comprising:

a tilt and/or defocus detector which detects the tilt and the defocus of the optical recording medium; and

a recording compensator which compensates a recording pulse with respect to the detected tilt and defocus using a predetermined scheme to adjust a length and a width of a recording mark according to the detected tilt and/or defocus,

wherein the recording pulse comprises a predetermined recording pattern.

30. (NOT AMENDED) The apparatus of claim 29, wherein, according to the predetermined scheme, said recording compensator adjusts a power level required for recording the recording pulse with respect to the detected defocus.

31. (AS ONCE AMENDED) The apparatus of claim 29, wherein, according to the predetermined scheme, said recording compensator adjusts a power and a time required for recording the recording pulse with respect to the detected tilt.

32. (AS ONCE AMENDED) The apparatus of claim 29, wherein said recording compensator adjusts a write power with respect to the detected defocus, and generates the recording pulse earlier to compensate for an amount of shift with respect to the detected tilt, and adjusts a power and/or a time of the shifted recording pulse to compensate the length and the width of the recording mark.

33. (NOT AMENDED) The apparatus for compensating of claim 32, wherein said recording compensator adjusts the power required for recording to compensate the length of the recording mark, and adjusts the time required for recording in order to compensate the width of the recording mark.

34. (NOT AMENDED) The apparatus of claim 33, wherein said recording compensator adjusts the power by adjusting a write power to compensate the length of the recording mark, and adjusts the time by adjusting an ending time of a first pulse and/or a starting time of a last pulse to compensate the width of the recording mark.

35. (NOT AMENDED) The apparatus of claim 32, wherein said recording compensator both adjusts the power by adjusting a write power to compensate the length of the recording mark, and adjusts a power of a multi-pulse chain of recording pattern to compensate the width of the recording mark.

36. (NOT AMENDED) The apparatus of claim 29, further comprising a luminance source which provides the recording pulse, wherein a wavelength of the luminance source is equal to or less than approximately 430 nm.

37. (NOT AMENDED) The apparatus of claim 29, further comprising an objective lens having a numerical aperture greater than or equal to 0.6, and wherein the optical recording medium further comprises a substrate having a thickness greater than or equal to 0.3 mm.

38. (NOT AMENDED) The apparatus of claim 29, further comprising an objective lens having a numerical aperture greater than or equal to 0.7, and wherein the optical recording medium further comprises a substrate having a thickness less than or equal to 0.3 mm.

39. (AS ONCE AMENDED) An apparatus, which records marks and spaces by write pulses having a predetermined recording pattern, and which compensates input data for tilt and/or defocus of an optical recording medium, the apparatus comprising:

a tilt and defocus detector which detects the tilt and defocus of the optical recording medium;

a tilt and defocus compensator which adaptively compensates the recording pattern with respect to the detected tilt and defocus; and

a memory storing data comprising

a write power to compensate with respect to the detected defocus,

a power and time required for recording in order to compensate an amount of shift of the recording pattern, and

a power and time required to compensate a length and a width of a recording mark with respect to the detected tilt and/or length of the recording mark.

40. (NOT AMENDED) The apparatus of claim 39, wherein the data stored in the memory comprises

a power and/or time and an amount of shift required for recording to compensate when defocus and tilt occur together, and

a power and/or time and an amount of shift required for recording to compensate when defocus or tilt occurs.

49. (AS ONCE AMENDED) A computer readable medium storing a computer program having instructions which, when executed by a processor, cause the processor to perform a method, the method comprising:

detecting a defocus of an optical recording medium;

detecting a tilt of the optical recording medium; and

adaptively compensating a length and a width of a recording signal with respect to the detected defocus and tilt using a predetermined scheme stored in a memory.

50. (NOT AMENDED) The computer readable medium of claim 49, wherein the predetermined scheme comprises adjusting a power level required for recording the recording signal.

51. (TWICE AMENDED) A computer readable medium storing a computer program having instructions which, when executed by a processor, cause the processor to perform a method, the method comprising:

detecting a defocus of an optical recording medium;

adaptively compensating a write pulse with respect to the detected defocus using a predetermined scheme stored in a memory, wherein the write pulse comprises a predetermined recording pattern;

detecting a tilt of the optical recording medium; and

adaptively compensating [a write time of] the write pulse with respect to the detected tilt [using the predetermined scheme]so as to shift the recording pattern with respect to the detected tilt.

52. (NOT AMENDED) The computer readable medium of claim 51, wherein the predetermined scheme comprises adjusting a power level with respect to the detected defocus.

53. (TWICE AMENDED) The computer readable medium of claim 51, wherein compensating the write pulse with respect to the detected tilt further comprises:

shifting [a]the recording pattern within the write pulse with respect to the detected tilt by both an amount that the recording pattern was shifted due to the detected tilt, and in a direction opposite to the direction that the recording pattern was shifted due to the detected tilt; and

adjusting a power and [the]a write time required for recording with respect to the detected tilt in order to compensate for a size of a recording mark corresponding to [the]a recording signal.

54. (AS ONCE AMENDED) The computer readable medium of claim 53, wherein

the adjusting the power comprises adjusting a write power to compensate a length of the recording mark, and

the adjusting the write time comprises adjusting the write time to compensate a width of the recording mark.

55. (NOT AMENDED) The computer readable medium of claim 54, wherein adjusting the recording mark width comprises adjusting an ending time of a first pulse or a starting time of a last pulse of the recording pattern.

56. (ONCE AMENDED) The computer readable medium of claim [53]51, wherein the [adjusting the power]compensating the write pulse with respect to the detected tilt comprises:

adjusting a write power to compensate a length of [the]a recording mark corresponding to a recording signal, and

adjusting a write power of a multi-pulse chain of the recording pattern to adjust a width of the recording mark.

57. (AS ONCE AMENDED) A method of compensating for defocus and/or tilt of an optical recording medium, the, method comprising:

detecting a defocus of an optical recording medium;

compensating a write pulse with respect to the detected defocus using a predetermined scheme;

detecting a tilt of the optical recording medium; and

compensating the write pulse with respect to the detected tilt so as to adjust a length and a width of a recording mark in accordance with the detected tilt.

58. (NOT AMENDED) The method of claim 11, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.

59. (NOT AMENDED) The method of claim 17, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.

60. (NOT AMENDED) The computer readable medium of claim 49, wherein the predetermined scheme comprises adjusting a write time required for recording the recording signal.

61. (NOT AMENDED) The computer readable medium of claim 49, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.

62. (ONCE AMENDED) The method of claim 57, wherein the compensating the write pulse with respect to the detected tilt comprises adjusting a power and/or a write time required for recording the write pulse.

63. (NOT AMENDED) The method of claim 57, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.